

## ABSTRACT

The present invention relates to a wireless home automation system having a controller for controlling a broad variety of functions via two ways communication with a plurality of

5 devices. More specifically, the invention relates to an improved and flexible way of routing signals from a controller to a device which includes the building of various tables such as routing tables. The improved and flexible way of routing allows the user to reach any device within the network with a high reliability. According to the invention, a processing unit of a controller is adapted to instruct a first device to discover other devices within its range by  
10 transmitting a signal comprising a device table holding device identifiers of devices controlled by the controller. The devices in the system are adapted to, upon instruction, perform a discovery of other devices within its range by transmitting discovery signals addressed to each device in the device table received from the controller. The devices save the identifiers of the device which acknowledges the reception of the discovery signals in a  
15 list indicating which devices of the device table it can reach and which it can not reach. The controller can at any time collect the saved list from a device to build a routing table.

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